National Institute of Urban Affairs

Ministry of Housing and Urban Affairs
Government of India

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

CITIES FORUM

Smart City

german cooperation

Green Urban Mobility Partnership

Phase II - the story so far

Since the start of phase II, the 10 teams have been partnered with a smart city to provide essential insights in creating a viable solution that can be implemented on-ground. Surat, Kochi, Hubli Dharwad, Guwahati, Delhi and Bangalore are the partner cities who provide inputs so the teams can customize their solutions to meet the local requirements while keeping in mind multi-city replicability.

SMART move has also involved various other transport undertakings like - ASTC, BMTC, DIMTS, DMRC and DTC, to help facilitate transit and mobility data.

The teams have also been connected with industry experts to help mentor them in refining the solution and ensure viability of the final product

External Mentor Profiles

Ms Krishna Desai
With over 7 years of experience, Ms Desai is an infrastructure planner with experience in urban transport, financial feasibility, preparation of development plans and smart city proposals. She is currently a Technical Expert at GIZ

Mr Kunal Parikh
Mr Parikh, director at RKP Engineering LLP is an engineering and PMC expert with a career spanning over 15 years. He has worked in the fields of BRTS, highway engineering and urban mobility with institutes like LEA Associates and CEPT
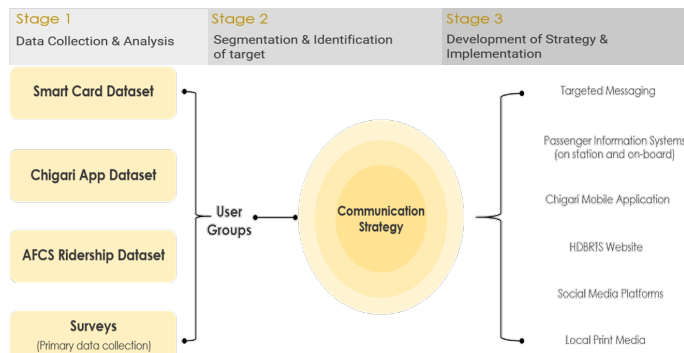
Dr Ravi Gadepalli
Dr Gadepalli is a Transportation Planning and Modelling expert currently working as an independent consultant with UITP & World Bank. With over 10 years of experience, he specializes in public transport & paratransit systems.

Idea Profiles : Theme - Operations and Service

Here to There - Changing Perception through Communication
Team: Directorate of Urban Land Transport
Genesia Rodrigues, Nikita Baliga, Ravindra Dhaded, Sushmita Mudhol

Stage 1	Stage 2	Stage 3
Data Collection & Analysis	Segmentation & Identification of target	Development of Strategy & Implementation

Smart Card Dataset
Chigari App Dataset
AFCS Ridership Dataset
Surveys (Primary data collection)

User Groups — Communication Strategy

Targeted Messaging
Passenger Information Systems (on station and on-board)
Chigari Mobile Application
HDBRTS Website
Social Media Platforms
Local Print Media

Post COVID-19, bus ridership has plummeted due to behavioral and attitudinal change of the commuters. DULT aims to develop communication strategies through analyzing ridership related data, defining the target and content. These will be developed and deployed on the existing ITS to regain the trust of the public in the PT system and thereby increase ridership.
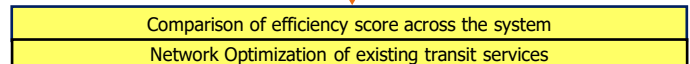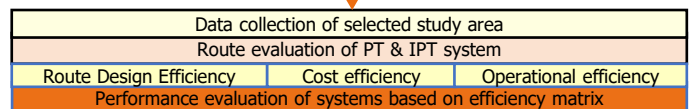
Idea Profiles : Theme - Operations and Service

Transit evaluation based Integration for Smart Mobility
Team: SVNIT
Nandan H. Dawda, Dr. Gaurang J. Joshi, Dr. Shriniwas S. Arkatkar

Identification of indicators representing performance of PT and IPT system

Data collection of selected study area
Route evaluation of PT & IPT system

Route Design Efficiency	Cost efficiency	Operational efficiency

Performance evaluation of systems based on efficiency matrix

Comparison of efficiency score across the system
Network Optimization of existing transit services

Re-routing and Re-scheduling of formal & informal public transport services

The solution deals with integrating both formal and informal transit services. It aims to
- Evaluate performance of existing transit services in terms of operational, route design, and cost-efficiency.
- Understand user's willingness to use a Multimodal Public transport system.
- Optimize the existing routes along with the rescheduling of the transit units.

Data-Driven Tools for Demand-Responsive & Reliable Bus Services
Team: Indian Institute of Technology, DELHI
Geetika Joshi, Hemant Suman, Nomesh Bolia, Anshika Sahu

DATA DRIVEN TOOLS (Methodology)
Analyze current schedule
Identify Inefficiencies
Optimize supply for demand

TOOLS USED
ADVANCED ANALYTICS
OPERATIONS RESEARCH
python
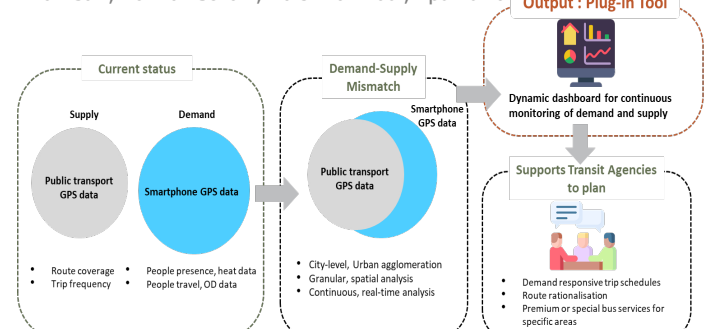
RESULTS
Optimized for demand
Automated system
UNIQUE

The idea is to make Indian bus services demand responsive and reliable. The team will apply the principles of advanced analytics, operations research, and use tools like python which will take the current schedule as input and will give the optimized schedule and identified inefficiencies after analysis. The final results will be in the form of Data-driven tools for Automated and optimized bus scheduling.

Improving bus services through GPS data from buses and smartphones
Team: Council on Energy, Environment and Water
Himani Jain, Abhinav Sonam, Harsimran Kaur, Apu Kumar

Current status

Supply — Public transport GPS data
Demand — Smartphone GPS data
- Route coverage
- Trip frequency
- People presence, heat data
- People travel, OD data

Demand-Supply Mismatch
Public transport GPS data / Smartphone GPS data
- City-level, Urban agglomeration
- Granular, spatial analysis
- Continuous, real-time analysis

Output : Plug-in Tool
Dynamic dashboard for continuous monitoring of demand and supply

Supports Transit Agencies to plan
- Demand responsive trip schedules
- Route rationalisation
- Premium or special bus services for specific areas

The solution will create a dynamic dashboard for transit agencies to monitor travel demand-supply mismatch. Transit agencies can plug-in GPS data from buses, and movement data from smartphones. The tool will identify areas with a significant mismatch between supply and travel demand. The dashboard will support transit agencies plan for demand-responsive service, routes &schedules to increase ridership.

Connect with us:

Team: Ankit Rai, Anusha Mishra, Nabamalika Joardar